Abstract

The invention relates to a system for inspecting matt, flat and/or slightly curved surfaces in order to identify defects which are associated with a modification of the course of the surface, in particular for inspecting matt, unlacquered shell bodywork. An illumination device is provided here which irradiates the surface to be inspected at flat angles. The illumination device consists of a plurality of elongated luminous surfaces which are arranged substantially parallel to one another, the longitudinal direction of the luminous surfaces being aligned substantially parallel to the longitudinal direction of the surface to be inspected. Each point of the luminous surface contributes to the illumination. The angle between the normal line of an inspected surface element on the surface and the connecting line between the inspected surface element and any point on one of the elongated luminous surfaces is always greater than approximately 70°. The light distribution of each elongated luminous surface is tightly concentrated in planes which lie transversely with respect to the longitudinal direction of the respective surface, with an aperture angle which is preferably smaller than 15°, better 5°, preferably smaller than 2°, in such a way that a substantially sheet-type light distribution is achieved, which covers the surface element to be inspected on the surface. The observer is located within or at least in the vicinity of the angle predetermined by reflection of the sheet-type light distribution of the at least one elongated luminous surface on the surface portion to be inspected.

~~(Fig. 1)~~